

BRAGIN, V.A.; OREL, V.Ye.; CHELPANOV, P.I.

Multi-well development of oil pools in the Yuzhno-Karskaya area.  
Neft. khoz. 39 no.2:31-36 F '61. (MIRA 17:2)

CHELPAKOVA, A. I.

POTAPOV, A. I., SUKHAREV, A. A., and CHELPANOVA, A.I. "Concerning the Biology of *Tilletia tritici*," Botanicheskii Zhurnal SSSR, vol. 28, 1943, pp. 110-116. 451 R923

SO: SIRA SI-90-53, 15 December 1953

VAYNSHTEYN, B.P.; KRUGLIKOV, V.Ya.; RAPOPORT, I.B.; VASIL'YEVA, Z.A.;  
KAGAN, L.Kh.; PLOKHINSKAYA, Ye.A.; VOLYNSKIY, A.V.; MUZOVSKIY,  
V.V.; KLEVTSOVA, V.P.; Primali uchastiye: MICHAN, A.I.;  
KONOVAL'CHIKOV, L.D.; AYNSHTEYN, V.G.; KVASHA, V.B.; CHELYANOVA,  
D.P.; ZAYTSEVA, A.F.; ANDREYEVA, T.A.

New way to synthesize oxygen compounds from carbon monoxide  
and hydrogen over iron-copper catalysts. Trudy VNII NP no.  
9:177-196 '63. (MIRA 17:6)

CHELPAANOVA, I. V.

"The Action of Haloethers on Triethylphosphite and on Salts of Diethylphosphorous Acid."  
Abramov, V. S., Serveeva, E. F. and Chelpanova, I. V. (p. 1030)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 11-12.

*Lab. Org. Chem., Kazan State U. in Wiganov (Kinin)*

CHELPANOVA, ABRAMOV, and SERGEYEVA,

"Action of Haloid-Substituted Ethers on Triethyl Phosphite and Salts of Diethyl-phosphorous Acid." Zh. Obshchei Khimii, 14, (1944), 11-12, 1030-1037.

SO: Translation-2524467, 30 Apr 1954.

CA CHELPANOVA, L.F.

91

**Polymerization of vinyl formate.** A. A. Vanshekht and L. F. Chelpanova (Leningrad Technol. Inst., Leningrad). *Zhur. Obshch. Khim. (J. Gen. Chem.)* 20, 2261-72 (1950).—Crude vinyl formate, obtained from the vapor phase synthesis, polymerizes only to low-mol. products, an event caused by contamination by aldehydes. Pure ester,  $b_p$  45.4-5.6°,  $b_m$  48.6-5.8°,  $b_m$  45.8-6.0°,  $b_m$  46.0-6.2°, in absence of free aldehydes,  $H_2O$ , or initiators gives very little low-mol. product; in absence of air, admixt. of a little aldehyde is not serious, but air and aldehyde together cause spontaneous polymerization.  $BaO_2$  accelerates polymerization and lowers the mol. wt. of polymer;  $Me_2CO$  similarly lowers viscosity of the polymer, probably by chain-transfer mechanism. If *p*-bromobenzoyl or chloroacetyl peroxides are used as catalysts, the polymers contain halogen. Polymerization in presence of  $BaO_2$  and air displays an induction period which increases proportionally with relative vol. of air contacted and the time of contact with  $O_2$ . In absence of solvents or air, the polymerization leads to formation of some insol. grains, which, like the glassy polymer, gives x-ray diagrams with 2 diffuse rings, indicating amorphous state; their formation is caused by tridimensional polymerization by linking of chains of a "growing" polymer and those of a completed, "dead" chain. Viscometric tracing of the process is presented in graphical form. G. M. K.

CA CHELPANOVA, L.F.

Polymerization of vinyl formate. A. A. Vanshekht and  
L. P. Chelpanova (Leningrad Technol. Inst., Leningrad).  
J. Gen. Chem. U.S.S.R. 20, 2353-54 (1950) (Engl. translation).  
See C.A. 45, 4482c. R. L. M.

CHELPAKOVA, L. F.

Catalytic hydrogenation of 2,7-dimethyl-3,5-octadiyno-  
2,7-diol. Yu. S. Zal'kind and L. K. Chelpanova. *J. Gen.  
Chem. U.S.S.R.* 21, 1281-84 (1951) (Engl. translation).  
See C.A. 46, 11004  
H. R.



CHELPAKOVA, L.F.; PRINTSEVA, Z.V.

Synthesis and conversion of  $\alpha$ -glycols of the ethylene series. Part 1.  
Obtaining 2-methyl-3,5-diphenylpentene-4-diol-2,3. Zhur.ob.khim. 23  
no.7:1135-1138 J1 '53. (MLRA 6:7)

1. Laboratoriya organicheskoy khimii Leningradskogo tekhnologicheskogo  
instituta imeni Lensovetu. (Glycols)

CHOLPANOVA L.F.

Synthesis and transformations of a glycols of the ethylene  
series. H. L. F. Chelpanova and V. A. Korner, J.  
Gen. Chem. U.S.S.R., 24, 341-3 (1949) (Engl. translation). --  
See C.A., 43, 8209t. H. L. H.

MA 8209t

CHEL PANOVA, L. F.  
USSR/Chemistry

Card 1/1

Authors : Chelpanova, L. F.; and Kormer, V. A.

Title : Synthesis and conversion of alpha-glycols of the ethylene series.  
Part 2.-

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 849 - 852, May 1954

Abstract : Report describes conversions of a trans-isomer 2-methyl-3, 5-diphenyl-pentene-4-diol-2, 3 in the presence of 14 and 20% alcohol solutions of sulfuric acid during heating. This glycol was obtained through catalytic hydrogenation of an acetylene glycol - 2-methyl-3, 5-diphenyl-pentene-4-diol-2, 3. By heating the trans-isomer of the ethylene glycol (melting point 85 - 86°) with a 14% alcohol solution of H<sub>2</sub>SO<sub>4</sub> to 55 - 60° the authors obtained about 70% of the basic glycol and about 5% of a yellow-orange colored substance (oily substance) the properties of which were not investigated. Five USSR references. Graph.

Institution: The Leningrad Technological Institute, Leningrad, USSR

Submitted : October 20, 1953

CHELPINOVY, L. F.

308

Synthesis and transformations of  $\alpha$ -glycols of the ethylene series. III. Production of 2,4-diphenyl-3-butene-1,2-diol.  
by R. Chelpanova and N. M. Libman. *J. Gen. Chem.* 1954, 24, 1071-1073 (1954) (Engl. translation).—See C.A.B. 49, 5857c.  
R. M. R. 11

CHELPAKOVA, L. F.

USSR/Chemistry - Synthesis

Card : 1/1

Authors : Chelpanova, L. F., and Libman, N. M.

Title : ~~Synthesis and conversion of alpha-glycols of the ethylene series. Part 3.- Derivation of 2, 4-diphenylbutene-3-diol-1, 2~~

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 1014 - 1017, 1954

Abstract : A new glycol of the acetylene series - 2, 4-diphenylbutene-3-diol-1, 2, with melting point of 101 - 102°, was synthesized in strict accordance with the Iotsich method. Two new, hitherto unknown in literature, geometrical isomers of ethylene glycol - 2, 4-diphenyl-butene-3-diol-1, 2, with melting point of 52 - 53° and 68 - 70°, were obtained. It was found that both acetylene and ethylene type glycols, when subjected to catalytic reduction, yield one and the same saturated glycol - 2, 4-diphenylbutanediol-1, 2 with melting point of 56 - 57°. Four references.

Institution : The Lenseviet Technological Institute, Leningrad

Submitted : February 2, 1954

CHOLPANOVA, L.F.

✓ Synthesis and transformation of ethylenic α-glycols. IV.  
2,4-Diphenyl-3-butene-1,2-diol. L. F. Cholpanova and  
V. A. Kormer (Lensovet Technol. Inst., Leningrad). Zhur.  
Obshch. Khim. 25, 1513-16 (1955); cf. C.A. 49, 8887e.  
The action of 14% alc. H<sub>2</sub>SO<sub>4</sub> on 2,4-diphenyl-3-butene-  
1,2-diol (m. 52-3°) 3 hrs. at 50° yields PhCH<sub>2</sub>CH: CPh<sub>2</sub>  
CHO, b<sub>p</sub> 191-2°, d<sub>4</sub> 1.1017, n<sub>D</sub> 1.6066; 2,4-dinitrophenyl-  
hydrazine with this compd. gave 1-(2,4-dinitrophenyl)-4-  
phenyl-5-benzylpyrazolone, m. 52-4°. Oxidation with  
KMnO<sub>4</sub> gave benzoylformic acid and PhCH<sub>2</sub>CO<sub>2</sub>H. On  
standing 2 months the aldehyde formed a solid, m. 224-5°,  
having an acidic reaction, and forming an Ag salt, C<sub>16</sub>H<sub>11</sub>  
O<sub>2</sub>Ag, identified as Ag diphenylcrotonate. The mixt. left  
after the distn. of the aldehyde in its synthesis was a brown  
resin composed apparently of the dimer of the aldehyde,  
since its absorption spectrum was identical with that of the  
monomeric aldehyde.  
G. M. Kosolapoff

CH

224

5(3)

AUTHORS:

Chelpanova, L. F., Kormer, V. A.

SOV/79-29-7-52/83

TITLE:

Synthesis and Transformation of the  $\alpha$ -Glycols of the Ethylene Series (Sintez i prevrashcheniye  $\alpha$ -glikoley etilenovogo ryada). VII. Transformation of 1,2,4-Triphenylbutene-3-diol-1,2 and 2,3-Dimethyl-5-phenylpentene-4-diol-2,3 (VII. Prevrashcheniye 1,2,4-trifenilbuten-3-diola-1,2 i 2,3-dimetil-5-fenilpenten-4-diola-2,3)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2348-2354 (USSR)

ABSTRACT:

It is evident from recently published reports (Refs 1-3) that ethylene- $\alpha$ -glycols in an acid medium are able, by isomerization, to form substituted dihydrofuran, besides giving aldehydes and ketones. In the present investigation, the authors tried to isomerize the glycols 1,2,4-triphenylbutene-3-diol-1,2 (I) and 2,3-dimethyl-5-phenylpentene-4-diol-2,3 (II) in solutions of 20% alcoholic and 30% aqueous sulfuric acid at 60-100°. On heating (I) at 60-70° with 20% alcoholic sulfuric acid an oily product separated. Its properties and analysis indicated it to be an aldehyde of the ethylene series. Oxidation of the product yielded benzoic and diphenylacetic acid, which is in accordance with (III). The ultraviolet absorption bands of the product

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Synthesis and Transformation of the  $\alpha$ -Glycols of the SOV/79-29-7-52/81  
Ethylene Series. VII. Transformation of 1,2,4-Triphenylbutene-3-diol-1,2 and  
2,3-Dimethyl-5-phenylpentene-4-diol-2,3

were characteristic for styryl and carbonyl groups. Heating the same glycol with 30% aqueous sulfuric acid also gave (III) in 50% yield as well as a crystalline product (15%) with the empirical formula  $C_{22}H_{18}O$  to which the structure (V) was tentatively ascribed. A maximum in the ultraviolet spectrum of (V) is due to conjugation of the double bond with the phenyl group (Fig 1). As shown in a table, an infrared absorption spectrum of (V) indicated it to be dihydrofuran-2,5. The hitherto unknown diol (II) was prepared by hydrogenating the corresponding acetylene glycol (Ref 7) in the presence of colloidal palladium. Thus, two geometric cis and trans isomers of this ethylene glycol were obtained. Treatment of the diol (II) with 20% alcoholic sulfuric acid at 50° and with 30% aqueous sulfuric acid at 90-100° yielded a substance with the empirical formula  $C_{13}H_{16}O$ . The structure of a 4,5,5-trimethyl-2-phenyl-dihydrofuran-2,5 (VI) was proposed for this compound,

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Synthesis and Transformation of the  $\alpha$ -Glycols of the SOV/79-29-7-52/83  
Ethylene Series. VII. Transformation of 1,2,4-Triphenylbutene-3-diol-1,2 and  
2,3-Dimethyl-5-phenylpentene-4-diol-2,3

which is consistent with its properties and spectroscopic data.  
The conversion of the diol (I) into the diol (II) is shown in  
scheme 1 and discussed. There are 2 figures, 1 table, and  
14 references, 12 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet  
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: December 31, 1957

Card 3/3

CHELPAKOVA, L.F., NEMIROVSKIY, V.D.

Synthesis of acetals of aliphatic aldehydes. Trudy LTI no.58:55-  
56 '59. (MIRA 13:7)

1. Leningradskiy tekhnologicheskii institut im. Lensoveta.  
(Acetals)

80702

S/079/60/030/05/10/074  
B005/B002

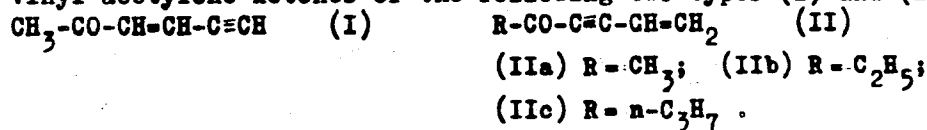
5,3200

AUTHORS: Chelpanova, L. F., Nemirovskiy, V. D., Petrov, A. A.,  
Yakovleva, T. V.

TITLE: Investigations in the Field of Conjugate Systems. CXVIII. On  
the Direction of the Addition of Bromine to Vinyl Acetylene  
Ketones<sup>1</sup>

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1445-1450

TEXT: By way of introduction the authors offer a brief survey of publi-  
cations concerning the rules governing the addition of bromine to vinyl  
acetylene hydrocarbons (Refs. 1-4) and to derivatives of vinyl acetylene  
hydrocarbons (Refs. 5, 6). In the paper under review, they describe the  
results of their investigations on the direction of bromine addition to  
vinyl acetylene ketones of the following two types (I) and (II):



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56702

Investigations in the Field of Conjugate  
Systems. CXVIII. On the Direction of the  
Addition of Bromine to Vinyl Acetylene Ketones

S/079/60/030/05/10/074  
B005/B002

The structures of the addition products were defined by the analysis of their infrared spectra. Spectroscopic measurements were made on a spectrophotometer of type MKC-14 (IKS-14). The characteristic frequencies of the two compound types (I) and (II) are given. To determine the direction of the bromine addition to the ketones mentioned, the infrared spectra of the solutions of these ketones in carbon tetrachloride were compared with the spectra of solutions of bromination products in the same solvent. Since the bromides were not isolated from the reaction mixtures, the results supplied refer to the original products of bromination. On the bromination of ketone (I) with the equimolar amount of bromine, this is preferably added to the triple bond. At the same time there also occurs an addition to the double bond, giving rise to a non-conjugate system. The 1,4-addition which is characteristic of the respective hydrocarbon, does not occur in the case of the ketone. On the bromination of ketones (IIa), (IIb), and (IIc), the addition to the triple bond and the addition to the double bond proceed together. A 1,4-addition does not occur here either. The dibromides of ketone (I) could not be isolated, since a decomposition took place on distillation of the

X

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Investigations in the Field of Conjugate  
Systems. CXVIII. On the Direction of the  
Addition of Bromine to Vinyl Acetylene Ketones

S/079/60/030/05/10/074  
B005/B002

reaction mixture. The dibromides of ketone (IIa) were isolated from the reaction mixture. The analysis of their infrared spectrum, shown in Fig. 4, confirmed the above statement concerning the direction of bromine addition. It may be stated in conclusion that vinyl acetylene ketones add bromine to a considerably less selective extent than the respective hydrocarbons. Another characteristic feature is the complete absence of 1,4-addition, as well as the relatively high reaction rate of bromine addition. The otherwise low reactivity of the triple bond is increased by the carbonyl group. It proceeds therefrom that the addition of bromine to the ketones mentioned is probably a nucleophilic reaction (cf. also Refs. 9-11). An experimental part contains data on production, along with main physical data and the characteristic infrared frequencies of the 4 ketones investigated. The reaction conditions in bromination and the physical data of the isolated mixture of the dibromides of the ketone (IIa) are specified as well. Figs. 2 and 3 show the infrared spectra of the 4 ketones investigated and the products of their bromination. There are 4 figures and 13 references: 9 Soviet, 2 English, and 2 German.

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Investigations in the Field of Conjugate  
Systems. CXVIII. On the Direction of the  
Addition of Bromine to Vinyl Acetylene Ketones

19702  
S/079/60/030/05/10/074  
B005/B002

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet  
(Leningrad Institute of Technology imeni Lensovet)

SUBMITTED: May 25, 1959

Card 4/4

S/079/60/030/05/16/074  
B005/B126

AUTHORS: Chelpanova, L. F., Kormer, V. A., Nemirovskiy, V. D.

TITLE: Synthesis and Rearrangement of  $\alpha$ -Glycols of the Ethylene Series. VIII. Rearrangement of 2,3-Dimethylpentene(4)-diol(2,3)<sup>1</sup>

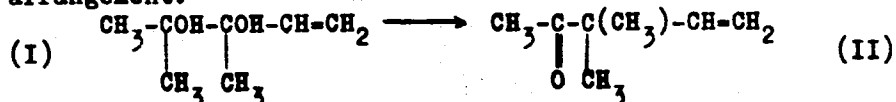
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1476-1479

TEXT: With 2,3-dimethylpentene(4)-diol(2,3) as an example, A. Ye. Favorskiy and his students showed that unsaturated  $\alpha$ -glycols in the presence of strong sulfuric acid can be the cause of a rearrangement of pinacolin. The authors examined the behavior of the similarly formed  $\alpha$ -glycol of the ethylene series (2,3-dimethylpentene(4)-diol(2,3)) (I) on being heated with diluted sulfuric acid. When the compound (I) is heated to 60-70° with 10% sulfuric acid, a bright yellow substance separates from the acid solution, with a boiling range (at 4 mm pressure) of 107-110°. This compound has the gross formula  $C_7H_{12}O$ , contains no hydroxyl group, discolors aqueous solutions of potassium permanganate and

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Synthesis and Rearrangement of  $\alpha$ -Glycols of the Ethylene Series. VIII. Rearrangement of 2,3-Dimethylpentene(4)-diol(2,3) S/079/60/030/05/16/074 B005/B126

bromine and gives a positive iodoform reaction. The substance forms a 2,4-dinitrophenyl-hydrazone with a melting point of 85-87°C. The formation of this unsaturated ketone can be explained by pinacolin rearrangement:



The analysis of the infrared spectrum of the compound (II) proves the given structure. The infrared spectra were taken with a type MKC-14 (IKS-14) spectrophotometer. The initial product (I), which is not described in publications, was synthesized by hydrogenation of the acetylene glycols (Ref. 1). Apart from the unsaturated ketone (II), another product formed by the action of  $\text{H}_2\text{SO}_4$  on (I), with a boiling range (at a pressure of 4 torr) of 120-122°; its structure could not be determined. The synthesis of the initial product (I), starting with dimethylacetylenylcarbinol, is described in the experimental part. The reaction with sulfuric acid is also described. The boiling point,

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Synthesis and Rearrangement of  $\alpha$ -Glycols of the Ethylene Series. VIII. Rearrangement of 2,3-Dimethylpentene(4)-diol(2,3) S/079/60/030/05/16/074 B005/B126

refractive index, density, molar refractions and results of the elementary analyses are given for all products and intermediates obtained. The Kucherov reaction is mentioned. There are 5 references: 3 Soviet, 1 American, and 1 German.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet  
(Leningrad Technological Institute imeni Lensovet) ✓

SUBMITTED: December 31, 1958

Card 3/3

CHELPAKOVA, L.F.; DUVAKINA, N.I.

Synthesis of 3-methyl-1-butyne-3-ol. Trudy LTI no.59:17-18 '61.  
(MIRA 17:9)

NEMIROVSKIY, V.D.; CHELPAKOVA, L.F. PETROV, I.I.

Conjugated systems. Part 141: Addition of hydrogen bromide  
to butynone and vinylacetylene ketones. Zhur.ob.khim. 31 no.8:  
2552-2559 Ag '61. (MIRA 14:8)

1. Leningradskiy tekhnologicheskii institut imeni Lensovetu.  
(Hydrobromic acid) (Ketones)

L 33946-65 EWT(m)/EWP(j) Pc-4 RM

ACCESSION NR: AP4047209

S/0190/64/006/010/1821/1824

AUTHOR: Bayeras, G. I.; Bondarev, G. N.; Chelpanova, L. F.; Okhrimenko, I. S. 16  
15  
B

TITLE: Modification of polyamide resin with unsaturated aldehydes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1821-1824

TOPIC TAGS: polyamide resin, resin modification, unsaturated aldehyde, acrolein, crotonaldehyde, polymer viscosity, polymer molecular weight

ABSTRACT: The authors investigated the activity of acrolein, crotonaldehyde, methylpropynal, tertiary-butyl-propynal and phenylpropynal in the modification of polyamide resin 548. To a 10% solution of the resin in 80% ethyl alcohol, the authors added a 68% solution of phosphoric acid (2% by weight of the resin). The aldehydes were then added gradually during 30-40 min. at 50C, with constant stirring continued for 20 hrs. The polymer was finally precipitated with acetone-water mixture (1:2) from a solution neutralized by ammonia, and the degree of unsaturation in the modified resin was determined by the method of Kaufman. The results showed that the degree of substitution of the amide hydrogen under these conditions, as determined by iodine number and elemental analysis, is independent of the aldehyde structure and lies within the limits of 0-10%. From the turbidi-

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L 33946-65

ACCESSION NR: AP4047209

metric titration curves, it can be concluded that modification by aldehydes is associated with changes in molecular weight distribution, which is in agreement with the results obtained by viscosity measurements. Orig. art. has: 1 formula, 2 figures and 1 table.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad technological institute)

SUBMITTED: 09Dec63

ENCL: 00

SUB CODE: MT

NO REF SOV: 004

OTHER: 004

Card 2/2

CHELPAKOVA, L.F.; NEMIROVSKIY, V.D.; MASHLYAKOVSKIY, L.N.

Addition of hydrogen bromide to certain acetylenic ketones. Izv.  
vys.ucheb.zav.; khim.i khim.tekh. 7 no.6:945-947 '64. (MIRA 18:5)

1. Leningradskiy tekhnologicheskii institut imeni Lensovetu,  
kafedra organicheskoy khimii.

SERGIYENKO, S.R.; GARBALINSKIY, V.A.; CHELPANOVA, M.P.; GUKASOVA, R.G.

Chemical nature of marine oil from the Cheleken deposit. Izv. a  
AN Turk. SSR. Ser. fiz.-tekh., khim. i geol. nauk no.1:48-53 '65.  
(MIRA 18:7)

1. Institut khimii AN Turkmenskoy SSR.

SERGIYENKO, S.R.; CHELPANOVA, M.P.; GARBALINSKIY, V.A.; KOZYREVA, A.S.

Chemical nature of the high molecular part of the sea petroleum  
of the Cheleken fields. Izv. AN Turk. SSR. Ser. fiz.-tekhn. khim.  
i geol. nauk no.3:33-43 '65. (MIRA 18:12)

1. Institut khimii AN Turkmenskoy SSR. Submitted Dec. 14, 1964.



SOKHRINA, Raisa Fedorovna, nauchnyy sotrudnik; CHEZLANOVA, Ol'ga Mikhaylovna, kand.geogr.nauk; SHAROVA, Valeriya Yakovlevna, kand.geogr.nauk. Prinimali uchastiye: RUBINSHTAYN, Ye.S., prof.; DROZDOV, O.A., prof., doktor geograf.nauk. red.; PRIK, Z.M.; PISAREVA, G.P., nauchnyy sotrudnik; GALINA, M.B.; KOSENKOVA, Z.D.; TIKHOMIROVA, M.A.; FEDOSEYEVA, G.N.; POKROVSKAYA, T.V., kand.geograf.nauk, red.; PISAREVSKAYA, V.D., red.; VOLKOV, N.V., tekhn.red.

[Air pressure, air temperature and atmospheric precipitation in the Northern Hemisphere] Davlenie vozdukh, temperatura vozdukh i atmosferye osadki severnogo polushariya. Pod red. O.A.Drozdova i T.V.Pokrovskoi. Leningrad, Gidrometeor.isd-vo, 1959. 473 p. [Atlas of charts] Atlas kart. (MIRA 13:4)  
(Meteorology--Charts, diagrams, etc.)

~~CHILPANOVA, O.I., Mikhaylovna; POKROVSKAYA, T.V.,~~ otv.red.; LIVSHITS, B.Ye.,  
red.; ALEKSEYEV, A.G., tekhn.red.

[Central Asia] Srednaya Azia. Leningrad, Gidrometeoizdat,  
1963. 446 p. (Leningrad. Glavnaia geofizicheskaya  
observatoriia. Klimat SSSR, no.3) (MIRA 16:8)  
(Soviet Central Asia--Climate)

CHELPAHOVA, O.M.

Reduction of extremely short series of meteorological observations  
performed at adjacent stations to a period of many years. Trudy  
GGO no.148:90-97 '63. (MIRA 16:6)

(Meteorology)

ACC NR: AP6033660

SOURCE CODE: UR/0000/66/000/000/0423/0426

AUTHOR: Lutskiy, V. N.; Ogrin, Yu. F.; Chel'shkov, S. P.

ORG: none

TITLE: Hall mobility of polycrystalline films in strong electric fields

SOURCE: Voprosy plenchnoy elektroniki (Problems in thin film electronics);  
sbornik statey. Moscow, Izd-vo Sovetskoye radio, 1966, 423-426

TOPIC TAGS: polycrystalline film, electric field, Hall mobility, electric  
conduction

ABSTRACT: The conduction mechanism of 1000—3000 Å thick CdS films was studied. The thin films were prepared by vacuum deposition on a glass base at  $-1 \times 10^{-6}$  mm Hg of pressure. The dependence of Hall mobility ( $\mu$ ) of films on the magnitude of the electric field was investigated. It was found that the exponential relationship for CdS films is entirely determined by the dependence of  $\mu$  on the magnitude of the electric field. Assuming that the barrier conductance is the basic conduction mechanism in CdS films, the value of intercrystalline barriers was estimated to be 0.11 to 0.2 ev. Analogous measurements were made with  $\text{SnO}_2$  and  $\text{In}_2\text{O}_3$  films under stationary and pulse operating conditions, and these films displayed a much

ACC NR: AP6033660

lower increase of mobility under the influence of electric field variations. This is probably the result of the heating of the current carriers by the strong electric field. Orig. art. has: 2 figures and 3 formulas.

SUB CODE: 20/ SUBM DATE: 27Jun66/ OTH REF: 004

Card 2/2

PYTASZ, Marian; GOSK, Adam; JUZWA, Witold; CHELSTOWSKA, Grazyna

Effect of neurohormones on the blood circulation in the kidneys and in other vascular areas. Acta physiol. pol. 14 no.1:55-63 '63.

1. Z Zakladu Fizjologii AM we Wroclawiu Kierownik: prof. dr A. Klisiecki.

(EPINEPHRINE) (NOREPINEPHRINE)  
(ACETYLCHOLINE) (PHARMACOLOGY)  
(BLOOD FLOW VELOCITY) (RENAL ARTERY)

PYTASZ, Marian; HENDRICH, Wacław; CHELSTOWSKA, Grazyna

Excretion and balance of diodrast determined by the polarographic method in the blood and urine of rabbits. Acta physiol. pol. 14 no.2:203-213 '63.

1. Z Katedry Fizjologii AM we Wrocławiu Kierownik: prof. dr A. Klisiewicz Z Działu Biochemii Instytutu Immunologii i Terapii Doświadczalnej PAN we Wrocławiu Kierownik: prof. dr T. Baranowski.

(IODOPYRACET) (BLOOD CHEMICAL ANALYSIS)  
(URINE) (POLAROGRAPHY)

PYTASZ, Marian; CHELSTOWSKA, Grazyna; ZIOLKOWSKA, Bozena

Vascular blood flow and the heart. Pol. tyg. lek. 18 no.14:  
498-501 1 Ap '63.

1. Z Zakladu Fizjologii AM we Wroclawiu; kierownik: prof. dr  
A. Klisiewicz.

(DOGS) (FROGS) (BLOOD CIRCULATION TIME)  
(HEART ARREST, INDUCED) (HEART) (PHYSIOLOGY)



KLISIECKI, Andrzej; PYTASZ, Marian; ZIOLKOWSKA, Bozena; CHELSTOWSKA, Grazyna;  
BOCHEREK, Wieslaw

Effect of diets on the reactivity of the blood and urine and on  
their urea and electrolyte content. Pol. tyd. lek. 19 no.17:623-  
627 20 Ap '64.

1. Z Zakladu Fizjologii Akademii Medycznej we Wroclawiu (kierownik:  
prof. dr. A. Klisiecki).

PYTASZ, Marian; CHELSTOWSKA, Grazyna; ZIOLKOWSKA, Bozena

Excretion of electrolytes and nitrogen substances in the urine of rabbits following epinephrine, norepinephrine and acetylcholine administration. Acta physiol. Pol. 16 no.1:35-48 Ja-P'65.

1. Zaklad Fizjologii Akademii Medycznej we Wroclawiu (Kierownik: prof. dr. A. Klisicki).

TOMASSI, Witold; JANKOWSKA, Helena; CHELSTOWSKA, Teresa

On the electrochemical obtaining of chlorine and copper with the use of powder electrodes. Pt. 3. Coupling the process of obtaining copper with the process of obtaining chlorine. Przem chem 41 no.4:183-185 Ap '62.

1. Katedra Chemii Fizycznej, Politechnika, Warszawa.

TOMASSI, Witold; PIETRZYK, Stanislaw; CHELSTOWSKA, Teresa

Studies on the use of the deposition curves method for characterizing porous electrode materials. Pt. 2. Przem chem 43 no. 2: 69-70 F '64.

1. Katedra Chemii Fizycznej, Politechnika, Warszawa.

USSR / Farm Animals: Domestic Fowls.

Q-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54845.

Author : Larionov, V. F., Chel'tsov, A. M.

Inst : Not given.

Title : The Ways of Increasing the Productiveness of Pigeons.

Orig Pub: Ptitsevodstvo, 1957, No 1, 35-39.

Abstract: Experimental groups of pigeons were kept in a warm cote during winter at a temperature of 0-3°C for the first group and 10-13°C for the second one. The control group was kept in a cote which was not warmed. The coupling of the pigeons of the first and second groups was started as from December, and that of the control group, about April. The average yearly egg production

Card 1/2

USSR / Farm Animals. Domestic Fowls.

Q-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54845.

Abstract: in the control group was 6.5 eggs and in the experimental groups - 10.7. The hatching of the young under ordinary conditions averages 82.9%, and in a winter hatching - 79.5%. The survival of young is 99 and 97.7%, respectively.

Card 2/2

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22(1)

SOV/47-59-3-35/53

AUTHOR: Chel'tsov A.M.

TITLE: **Power Supply for an Ionized Particle Counter**

PERIODICAL: Fizika v shkole, 1959, Nr 3, pp 88-90 (USSR)

ABSTRACT: For the feeding of the tubes of an ionized particle counter, the author recommends the interstage transformer of the receiver "Rodina-47", which is on sale in radio shops. As a current transformer, the selenium rectifier AVS-1, the germanium diode DGTS-27, or the kenotron LTS1S is used. The interstage transformer makes it possible to obtain high voltages, which are indispensable for the feeding of the counter tubes. It has a primary of 2,000 turns of PEL-0.1 wire and a secondary of 6,300 turns with a central tap of the same wire. Figure 1 shows a diagram for the switching in of counter tube type MS-9 or AMM-4, with a working voltage of 800-900 volts. The diagram shows: rectifier AVS-1-1000 (can be replaced by two

Card 1/2

SOV/47-59-3-35/53

**Power Supply for an Ionized Particle Counter**

planar germanium diodes DGTS-27 DGTS-27; connected in sequence); a load resistance of 4-8 megohm, a condensor  $S_1$  type KBG-MP with a working voltage of 1000 volts, which serves to iron out ripples. The author gives details, illustrated by circuit, diagrams. He mentions the kit of B.S. Zvorykin, intended for demonstrations on the theme "Electromagnetic Oscillations and Waves". There are 4 circuit diagrams.

ASSOCIATION: Srednyaya shkola rabochey molodezhi, g. Kostino  
Moskovskoy obl. (Secondary School for the Working  
Youth, Kostino, Moscow Oblast )

Card 2/2



VASIL'YEV, A.I.; OL'SHEVSKAYA, V.M.; SAVEL'YEV, V.A.; CHEL'TSOV, M.B.

Power resources of Tyumen Province and measures for their  
utilization. Izv. Sib. otd. AN SSSR no.1:98-107 '58; (MIRA 11:8)

1. Zapadno-Sibirskiy filial AN SSSR.  
(Tyumen Province--Power resources)

CHEL'TSOV, M.B.

Increasing the technical speed of railroad traffic. Izv.Sib.otd.  
AN SSSR no.9:88-91 '58. (MIRA 11:11)

1. Zapadno-Sibirskiy filial AN SSSR.  
(Railroads--Curves and turnouts)

VASIL'YEV, A.I., kand.tekhn.nauk; STARODUBTSEV, N.L., inzh.; CHEL'TSOV, M.B.  
inzh.; SAVCHUK, M.G., inzh.

Peat is an important power fuel in Western Siberia. Torf. prom. 35  
no.5:22-24 '58. (MIRA 11:10)

1.Transportno-energeticheskiy institut zapadno-sibirskogo filiala  
AN SSSR (for Chel'tsov). 2.Novosibirskoye mezhhoblastnoye upravleniye  
torfyanogo fonda (for Savchuk).  
(Siberia, Western--Peat)

CHEL'TSOV, M.B. (Irkutsk)

Choice of an optimum alternative for developing an electric power  
distribution network using a mathematical model. Izv. AN SSSR.  
Energ. i. transp. no.4:497-504 J1-Ag '63. (MIRA 16:11)

BUTYAGIN, Igor' Pavlovich; VASIL'YEV, Anatoliy Ivanovich; SUKHORUKOV,  
Lev Nikolayevich [deceased]; ~~CHEL'TSOV, Mikhail Borisovich;~~  
TISTROVA, O.N., red.; BUL'DYAYEV, N.A., tekhn. red.

[Power production in Siberia] Energetika Sibiri. Moskva,  
Gosenergoizdat. 1963. 95 p. (MIRA 16:8)  
(Siberia--Electric power)

CHEL'TSOV, M.B.

Scientific session on mathematic modeling techniques using electronic  
computers in power engineering. Izv. AN SSSR. Energ. i transp.  
no.1:129-136 Ja-F '64. (MIRA 17:4)

KUZNETSOV, Yu.A.; MAKAROV, A.A.; MELENT'YEV, L.A.; MERENKOV, A.P.; NEKRASOV, A.S.; TSVETKOV, N.I.; KUZNETSOV, Yu.A.; MAKAROVA, A.S.; KARPOV, V.G.; MANSUROV, Yu.V.; SYROV, Yu.P.; KHRILEV, L.S.; TSVETKOVA, L.A.; VOYTSEKHOVSKAYA, G.V.; YEFIMOV, N.T.; LEVENTAL', G.B.; KHANAYEV, V.A.; BELYAYEV, L.S.; GAMM, A.Z.; KARTELEV, B.G.; KRUMM, L.A.; LIOPO, T.N.; SVIRKUNOV, N.N.; DRUZHININ, I.P.; KONOVALENKO, Z.P.; KHAM'YANOVA, N.V.; SHVARTSBERG, A.I.; NIKONOV, A.P.; STARIKOV, L.A.; POPYRIN, L.S.; PSHENICHNOV, N.N.; TROSHINA, G.M.; CHEL'TSOV, M.B.; SVETLOV, K.S.; SUMAROKOV, S.V.; TAKAYSHVILI, M.K.; TOLMACHEVA, N.I.; KHASILEV, V.Ya.; KOSHELEV, A.A.; KUDINOVA, L.I., red.

[Methods for using electronic computers in the optimization of power engineering calculations] Metody primeneniia elektronno-vychislitel'nykh mashin pri optimizatsii energeticheskikh raschetov. Moskva, Nauka, 1964. 318 p.

(MIRA 17:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Energeticheskii institut. 2. Chlen-korrespondent AN SSSR (for Melent'yev).

CHEL'TSOV, M. I.

"Mechanism of High Pressure Gate-Type Bulkheads in the Mines of the Moscow Coal Basin," Ugol', No.2, 1952



18(5),14(5)

AUTHORS:

SOV/127-59-2-2/21

Chel'tsov, M.I., and Skirgello, O.B., Engineers

TITLE:

On Drainage Problems at the **Yakovlevskoye Iron-Ore Deposits** (Problemy osusheniya Yakovlevskogo zheleznorudnogo mestorozhdeniya)

PERIODICAL:

Gornyy zhurnal, 1959, Nr 2, pp 6-10 (USSR)

ABSTRACT:

Fifteen or 17 million tons of rich iron ore are estimated to lie in the **Yakovlevskaya and Pokrovskaya layers**. The hydrogeological conditions of the deposits are very difficult. Some of the problems to be solved are absolutely new. The authors first shortly describe and illustrate the hydrogeological conditions of the area. There are 6 main wet layers. The ore itself is 550 m deep. A concise description of the preliminary drainage operations, according to the combined plans drawn up by the Yuzhgiproruda Institute and the Institut gornogo dela AN SSSR (Mining Institute of the **AS** SSSR). Drainage operations will take 2 or 3 years. Water-flow into the drainage canal will amount to 3,320 cu m/h or 6,640

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SOV/127-59-2-2/21

On Drainage Problems at the **Yakovlevskoye Iron-Ore Deposits**

cu m/h (eventually 8,850 cu m/h), if one calculates **the combined Yakovlevskaya and Pokrovskaya layers.** . Filter shafts and observation mines will be bored with URB-3AM **drills,** . drain mines thru hard layers with GP-1 and BA-100M boring installations. The immersion pumps used will deliver 100 cu m/h at 550 m pressure. Other pumps will be of the EN type produced by the "Borets" Plant as well as the APV pumps manufactured in Moscow. A total of 192 or 276 water-level-lowering mines will be drilled, 260,000 m (or 350,000 m) of mines and filter shafts, and 26,500 m (or 39,800 m) of drainage galleries will be opened. Drainage operations will cost 6 roubles and 11 kop. (or 7 roubles 82 kop.) for each ton of mined ore.

Card 2/3

SOV/127-59-2-2/21

On Drainage Problems at the **Yakovlevskoye Iron-Ore Deposits**

There are 2 schematic diagrams and 2 Soviet references.

ASSOCIATION: Proyechnaya kontora Soyuzshakhtoosusheniye, Moskva  
(Projects Office Soyuzshakhtoosusheniye, Moscow)

Card 3/3

CHEKALTSOV, Mikhail Ivanovich; SLOBODKIN, Dmitriy Savvich; FADEYEV, Yevgeniy Ivanovich; SKIRGELLO, Ol'gerd Boleslavovich; POLYAK, Aron L'vovich; ZHUK, Boris Vasil'yevich; POLYAKOV, Nikolay Mikhaylovich; NIKOLAYENKO, Aleksey Timofeyevich; FAYNBERG, Grigoriy Solomonovich; YUDITSKIY, Grigoriy Izrailevich; DOROSHENKO, Grigoriy Nesterovich; TRUPAK, N.G., prof., doktor tekhn. nauk, obshchiy red.; SMIRNOV, L.V., red.isd-va; KONDRAT'YEVA, M.A., tekhn.red.

[Handbook on special methods of shaft sinking] Spravochnik po prokhodke stvolov shakht spetsial'nymi sposobami. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 383 p.

(MIRA 13:4)

(Shaft sinking)

ABRAMOV, Sergey Koz'mich; SKIRGELLO, Ol'gerd Boleslavovich; CHEL'-  
TSOV, Mikhail Ivanovich; RATNIKOVA, A.P., red. izd-vs; IL'IN-  
SKAYA, G.M., tekhn. red.

[Draining coal deposit mine fields and strip mines] Osu-  
shenie shakhtnykh polei i kar'erov ugol'nykh mestorozhdenii.  
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu,  
1961. 398 p. (MIRA 14:5)

(Mine drainage)

STANCHENKO, I.K., inzh.; CHEL'TSOV, M.I., inzh.

Boring method for the erection of barrier-dams and its prospects.  
Shakht. stroi. 6 no.3:4-7 Mr '62. (MIRA 15:3)  
(Mine drainage)

STANCHENKO, I.K., inzh.; CHEL'TSOV, M.I., kand. geol.-mineral. nauk;  
KLEYMAN, D.B., inzh.; KUBYNIN, A.Ye., inzh.

Underground drainage of mines under construction in the western  
Donets Basin. Shakht. stroi. 9 no.7:16-19 JI '65.

(MIRA 18:10)

1. Gosstroy SSSR (for Stanchenko). 2. Gosudarstvennyy institut  
po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for  
Chel'tsov, Kleyman, Kubynin).

ANTIPIN, V.I.; BUDANOV, N.D.; KOTLUKOV, V.A.; LEYBOSHITS, A.M.;  
 PROKHOROV, S.P., kand.geol.-miner.nauk; SIRMAN, A.P.;  
 FALOVSKIY, A.A.; SHTEYN, M.A.; BASKOV, Ye.A.; BOGATKOV,  
 Ye.A.; GANEYEVA, M.M.; ZARUBINSKIY, Ya.I.; IL'INA, Ye.V.;  
 KATSIYAYEV, S.K.; KOMPANIYETS, N.G.; NELYUBOV, L.P.;  
 PONOMAREV, A.I.; REZNICHENKO, V.T.; RULEV, N.A.; TSELIGOROVA,  
 A.I.; ALSTER, R.K.; SHVETSOV, P.F.; VYKHODTSEV, A.P.; KOTOVA,  
 A.I.; KASHKOVSKIY, G.N.; LOSEV, F.I.; ROMANOVSKAYA, L.I.;  
 PROKHOROV, S.P.; MATVEYEV, A.K., dots., retsenzents; CHEL'TSOV,  
 M.I., inzh., retsenzents; KUDASHOV, A.I., otv. red.; PETRYAKOVA,  
 Ye.P., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[State of flooding and conditions for the exploitation of coal-  
 bearing areas in the U.S.S.R.] Obvodnennost' i usloviia eksplu-  
 atatsii mestorozhdenii ugol'nykh raionov. Pod nauchn. red.  
 S.P.Prokhorova. Moskva, Gosgortekhnizdat, 1962. 243 p.

(MIRA 15:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut gidro-  
 geologii i inzhenernoy geologii. 2. Kafedra geologii i geo-  
 khimii goryuchikh iskopayemykh Moskovskogo Gosudarstvennogo  
 universiteta (for Matveyev).

(Coal geology) (Mine water)



STANCHENKO, I.K., inzh.; CHEL'TSOV, M.I., inzh.

Using bentonite for grouting rocks in underground construction in  
Hungary. Shakht. stroi. 5 no.10:26-28 0 '61. (MIRA 16:7)

(Hungary--Mining engineering) (Grouting)

SEVER'YANOV, N.N., kand. tekhn. nauk, red.; BERLIN, A.Ye.,  
retsenzent; VOYTSEKHOVSKIY, G.A., retsenzent;  
DAVYDOVA, Ye.A., retsenzent; ZIL'BERSHTEYN, Ya.Yu.,  
retsenzent; KIRICHINSKIY, N.R., retsenzent; KLEPIKOV,  
L.N., retsenzent; KUBYNIN, A.Ye., retsenzent; LEBEDEV,  
V.V., retsenzent; MOROZOV, V.P., retsenzent; MOSKVIN,  
V.B., retsenzent; MUSARSKIY, I.S., retsenzent; PODERNI,  
Yu.S., retsenzent; SALIKOV, I.A., retsenzent; SUSHCHENKO,  
A.A., retsenzent; TRET'YAKOV, K.M., retsenzent; UL'YANOV,  
V.P., retsenzent; TSVIRKO, P.P., retsenzent; TSOY, A.G.,  
retsenzent; ~~CHEL'TSOV, M.I.~~, retsenzent; SHISHCHITS, G.N.,  
retsenzent; DIDKOVSKIY, D.Z., otv. red.

[Handbook on the prospecting, planning, and construction  
of strip mines] Spravochnik po izyskaniyam, proektirovaniu  
i stroitel'stvu kar'erov. Moskva, Nedra, 1964. 2 v.  
(MIRA 18:2)

ACCESSION NR: AP5008890

S/0202/65/000/001/0048/0053

AUTHOR: Sergiyenko, S. R.; Garbalinskiy, V. A.; Chelpanova, M. P.; Gukasova, R. G.

TITLE: Chemical nature of undersea petroleum of the Cheleken deposit

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnikeskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1965, 48-53

TOPIC TAGS: offshore oil, undersea petroleum, petroleum composition, Cheleken petroleum, selective dehydrogenation

ABSTRACT: Low-tar high-paraffin petroleum from an offshore well located west of the Cheleken peninsula in Turkmenistan was investigated. Selective liquid-phase dehydrogenation of the high-molecular hydrocarbons followed by chromatographic separation and spectroscopic analysis enabled the authors to explore the hybrid structure of these hydrocarbons and to determine the relative proportion of the hexa- and pentamethylene rings present. The content of the aromatic hydrocarbons in the benzine fractions ranged from 7 to 20%, and in the kerosene fractions, from 30 to 33%. In the latter, the content of normal paraffins was about 25%, and in the higher boiling fractions, 30 to 35%. The saturated (paraffin and paraffin-cycloparaffin) hydrocarbons comprised from 61 to 86% of

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ACCESSION NR: AP5008890

the high-boiling (above 300C) hydrocarbon part of the petroleum. The aromatic hydrocarbons isolated from the high-molecular fractions are hybrid polycyclic structures containing an average of 2.5 to 5.0 rings per molecule, of which 2.0 to 5.0 rings per molecule are aromatic. As indicated by the high index of hydrogen deficit in the molecule (from 14 to 23), polycondensed systems make up a significant portion of the molecule. Orig. art. has: 7 tables.

ASSOCIATION: Institut khimii AN Turkmenkoy SSR (Institute of chemistry, AN Turkmen SSR)

SUBMITTED: 20Oct64

ENCL: 00

SUB CODE: FP, ES

NO REF SOV: 001

OTHER: 000

Cord 2/2

CHEL'TSOV, N.I.

"Investigation of Reflection, Absorption, And Passage of Radiation by Clouds of Certain Shapes." Sub 9 May 51, Geophysics Inst, Acad Sci USSR

*Cand. Physico-Mathematical Sci*

Dissertations presented for science and engineering degrees in Moscow during 1951.

SD: Sum. No. 480, 9 May 55

**Meteorological Abstracts**

**Vol. 4 No. 8**

**Aug. 1953**

**Part 1**

**Radiation and Temperature.**

4.8-120  
 Cheltsov, N. I., Albedo oblakov. [Albedo of clouds.] *Meteorologiya i Gidrologiya*, No. 6:24-26, 1952. 3 figs., 5 refs. DLC—The author investigated the problem on the basis of special observations which were made from an airplane in 1949 over Moscow and during 1949-1950 over Arkhangel'sk. Works previously published, especially the work by M. N. BURGER (1949) in *Journal of Meteorology*, (see item 3F-119, June 1952, *MAB*.) have been used. The author concluded that the albedo of clouds depends on their thickness. The clouds of crystalline structure have a greater albedo. The albedo of stratus clouds is equal at different latitudes. The comparison of theoretical and observed relations between the value of albedo and the thickness of cloud show a significant increase in water content with increasing thickness.  
 Subject Headings: 1, Albedo of clouds 2, Cloud structure. — N.T.Z. 24 6-11-54

CHEL'TSOV, N.I.

Studying the reflection, transmission, and absorption of solar  
radiation by some types of clouds. Trudy TGAO no.8:36-66 '52.  
(MIRA 12:1)

(Solar radiation) (Clouds)

CHEL'TSOV, N.M.

Measures for reducing losses of fruit and vegetable products in  
barrels. Koms. i ev. prem. 13 no.12:4-6 D '58. (MIRA 11:12)

1. Vsesoyuznaya nauchno-issledovatel'skaya laboratoriya tary.  
(Barrels) (Canning and preserving)



CHEL'TSOV, N.M.

Technical requirements for staves and barrels for food products.  
Trudy Military no.2:81-87 '58. (MIRA 13:12)  
(Barrels)

CHEL'TSOV, N.M.

"Manufacture of barrel containers for the food industry" by  
A.L.Rudnitskii. Reviewed by N.M.Chel'tsov. Kons.i ov.prom.  
15 no.2:44-45 F '60. (MIRA 13:5)  
(Food industry--Equipment and supplies) (Barrels)  
(Rudnitskii, A.L.)

CHEL'TSOV, V.

Chemical nature of the one-step photographic process "moment".  
Khim. v shkole 13 no.4:64-65 JI-Ag '58. (MIRA 11:6)  
(Photographic chemistry)

ACCESSION NR: AP4043631

S/0056/64/047/002/0564/0570

AUTHOR: Chel'tsov, V. F.

TITLE: Radiative transitions in a resonant system of two-level molecules

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 564-570

TOPIC TAGS: radiation energy spectrum, level transition, resonance interaction, molecular interaction, photon, perturbation theory, two level laser

ABSTRACT: The author shows, in contradiction to the results of A. I. Alekseyev et al. (ZhETF, v. 46, 320, 1964), that a perturbation theory series can be used to describe the behavior of a resonance system of two-level molecules. The earlier difficulties, which consisted in the appearance of a "collective" effect of interaction of the radiating molecules with each other through the radiation field, is

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ACCESSION NR: AP4043631

circumvented by having each term of the perturbation theory series give a radiative transition in which this interaction is taken into account. The first terms of the corresponding perturbation theory series are then calculated and the limit of applicability of the ordinary formula for the probability of "single-photon" radiation of molecules in this system is indicated. It is further indicated that one of the reasons for the failure of the ordinary perturbation theory to describe the behavior of the resonance system of two-level molecules is the occurrence of multi-photon radiative transitions. "The author thanks B. A. Trubnikov, A. I. Alekseyev, and Yu. A. Vdovin for stimulating discussions and V. M. Galitskiy and A. A. Vedenov for a discussion of the results." Orig. art. has: 25 formulas.

ASSOCIATION: None

SUBMITTED: 24Jan64

ENCL: 00

SUB CODE: GP, EC

NR REF SOV: 002

OTHER: 001

Card 2/2

L 41595-65 EWT(1)/T/EWA(h) Pz-6/Peb IJP(c) AT

ACCESSION NR: AP5006502

S/0056/65/048/002/0531/0537

AUTHOR: Chel'tsov, V. F.

TITLE: Radiative transitions in semiconductors

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 2, 1965, 531-537

TOPIC TAGS: semiconductor, radiative transition, multiphoton excitation, valence band, conduction band, interband transition, absorption coefficient

ABSTRACT: A basis system of functions, whose set of quantum numbers incorporates the occupation numbers of the bands and of the field oscillators, is introduced in the two-band approximation for a system consisting of an intrinsic semiconductor and a radiation field contained in a finite volume. The procedure is similar to that used by the author earlier (ZhETF v. 47, 564, 1964) for a system of two-level molecules. The analysis is confined to an estimate of the relative probability of excitation of multiphoton states in the semiconductor with zero initial radiation field and with part of the electrons transferred at the initial

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L 41595-65

ACCESSION NR: AP5006502

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instant from the valence to the conduction band. The absorption coefficient is calculated in the single-photon approximation and is found to agree with that obtained by Bardeen et al. (1954 Atlantic City Photoconductivity Conference, N. Y. 1956, p. 146). Using the appropriate perturbation-theory series, a criterion is found for the occurrence of direct allowed interband transitions in an intrinsic semiconductor with spherical equal-energy surfaces. The interaction of the carriers with the free radiation field is considered without account of the interaction with the phonons. "The author thanks B. A. Trubnikov and A. A. Vedenov for interesting discussions." Orig. art. has: 19 formulas.

ASSOCIATION: None

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: SS

NR REF SOV: 004

OTHER: 001

*mlc*  
Card 2/2

L 52973-65 EWA(k)/FBD/EWG(z)/EWT(1)/EEC(k)-2/EEC(t)/I/EEC(b)-2/EWP(k)/EWA(m)-2/  
EWA(h) Pm-4/Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 SCTB/IJP(c) WG  
ACCESSION NR: AP5010509 UR/0056/65/048/004/1139/1145

AUTHOR: Chel'tsov, V. F.

TITLE: Oscillations in a system of two-level molecules and a radiation field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 4, 1965, 1139-1145

TOPIC TAGS: two level laser, collective oscillation, two level molecule, multi-photon transition, molecule field interaction

ABSTRACT: The state of a system comprising one, two, or three two-level molecules and a radiation field is investigated in the interaction representation. The analysis is confined to interaction between the molecular system and only one type of photons. It is assumed that the width of the emission line (in either a self-consistent or a strong field) is much smaller than the distance between the natural frequencies of the laser cavity. Both the case of the self-consistent field, when the system of molecules was excited and there were no photons at the initial instant of time, and the case of a strong external field, when the contribution made to it by the molecular subsystem can be neglected, are considered. A system of

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L 52973-65

ACCESSION NR: AP5010509 2

equations of motion is derived for the amplitudes of the states. It is shown that the interaction of molecules when the radiation field is decisive in the case of a self-consistent field and vanishes in a strong field. In the presence of a strong field, the oscillations spectrum is obtained for an arbitrary number of molecules and is found to consist out of integer harmonics. It is also confirmed that the probability of coherent emission does not depend on the wavelength. The spectrum obtained is not sensitive to the initial conditions. "The author thanks B. A. Trubnikov and A. A. Vedenov for fruitful discussions." Orig. art. has: 21 formulas.

ASSOCIATION: None

SUBMITTED: 17Oct64

ENCL: 00

SUB CODE: OP, NP

NR REF SOV: 003

OTHER: 001

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Card 2/2

CHEL'TSOV, V.F.

Behavior of a semiconductor in a strong resonance radiation  
field. Zhur.eksp. i teor.fiz. 49 no.5:1492-1494 N '65.  
(MIRA 19:1)

1. CHEL'TSOV, V. I.
2. USSR (600)
4. Fire Clay-Noginsk District
7. Novo-Kudino deposits of refractory clays (report on the geological-prospecting activities of 1944) Izv. Glav. upr. geol. fon. no. 3 1947.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

CHEL'TSOV, V.I.

Strength and texture of carbonate rocks in the Melekhovo-  
Fedotovo deposit. Trudy IGEM no.43:25-32 '61. (MIRA 14:10)  
(Kliaz'ma Valley—rocks, Carbonate)

5 (1)

AUTHORS:

Tayts, A. Yu., Chel'tsov, V. M.

SOV/64-59-5-10/28

TITLE:

Preparation of Metallic Potassium by the "Vacuo-thermic" Method

PERIODICAL:

Khimicheskaya promyshlennost', 1959, Nr 5, pp 404-408 (USSR)

ABSTRACT:

The present investigation was carried out in the experimental plant of the Dnepropetrovskiy alyuminiyevyy zavod (Dnepropetrovsk Aluminum Plant) in collaboration with the co-workers of the VAMI, V. M. Kozlov and D. N. Chemrukov. The method mentioned in the title is based on a reduction of potassium chloride (I) (in vacuum) by other metals or alloys ("metallo-thermic") or with calcium carbide ("carbido-thermic"). P. V. Gel'd et al. (Ref 3) reported on the latter. N. M. Nikolayshvilli (Ref 4) reduced (I) with silicon alloys, whereas V. M. Gus'kov, N. M. Zuyev, and A. I. Voynitskiy (Ref 5) carried out the (I)-reduction with silicon alloys and also with aluminum. On the basis of these investigation results the experiments of the present paper were made with ferrosilicon (II) and aluminum silicon (III) (in the beginning with calcium carbide under the participation of a team of the UNIkhim). The following reactions were investigated: the carbido-thermic

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Preparation of Metallic Potassium by the "Vacuothermic" SOV/64-59-5-10/28  
Method

reduction  $2\text{KCl} + \text{CaC}_2 = \text{CaCl}_2 + 2\text{C} + 2\text{K}$  (1), the aluminothermic reduction  $18\text{KCl} + 14\text{CaO} + 6\text{Al} = 5\text{CaO} \cdot 3\text{Al}_2\text{O}_3 + 9\text{CaCl}_2 + 18\text{K}$  (2), and the silicothermic reduction  $4\text{KCl} + 4\text{CaO} + \text{Si} = 2\text{CaO} \cdot \text{SiO}_2 + 2\text{CaCl}_2 + 4\text{K}$  (3), further, the authors calculated the free energy  $\Delta F$  (within the temperature range 1123 - 1323°K), the equilibrium constant  $K_p$ , the equilibrium pressure of potassium vapors  $P_K$ , and  $\lg P_K$  (Table 1). The experiments were made on a semicommercial scale with 150-300 kg charging initial quantity for the preparation of 20-40 kg of metallic potassium. The charge was briquetted and the potassium chloride was thermally reduced in vacuum. The charge consisted of potassium chloride (of up to 4% NaCl), limestone, and ferrosilicon (72.3% Si). The components ((I) and (II)) were dehydrated, finely ground (-60 to -80 mesh) and subsequently briquetted. The reduction was made in a perpendicular vacuum retort furnace (Fig 2) whereby the condensation of the salt from the gaseous phase took place in the upper part of the furnace while that of the

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metal vapors occurred in the lower (hotter) part. The reduction was started at 810-850° and proceeded at 780-800° (0.5-0.8 mm Hg). The first series of experiments resulted in potassium yields of only 15-35%. To increase the reaction rate, 5 and 9% of calcium fluoride (IV) was added in the second series of experiments. An addition of 5% of (IV) increased the potassium yield to 47.7-62.7% (Table 2), as well as a reduction in the (II)-consumption and current consumption. Further experiments carried out with (III) offered good results (39.3-58.5% potassium yield, Table 3); though only a reduced yield is obtained as compared to the (II)-procedure (Table 4), the consumption of (III) is considerably less than that of (II). A technological schedule of operation is given (Fig 3). There are 3 figures, 3 tables, and 8 Soviet references.

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S/136/61/000/008/002/005  
E021/E180

**AUTHORS:** Chel'tsov, V.M., and Tsaregorodtsev, I.D.

**TITLE:** Vacuum furnaces for the production of magnesium by the silico-thermic method

**PERIODICAL:** Tsvetnyye metally, 1961, No.8, pp. 46-55

**TEXT:** Furnaces used for the silico-thermic production of magnesium are described and evaluated. The first types to be considered are those using a stationary furnace with external heating. The Pidgeon retort was introduced in 1941-5 in the U.S.A. The high cost and the difficulties in using this furnace give it no advantage over the electrolytic method of producing magnesium. It should be used only in special conditions where there is no chloride source and cheap gas. The BAMM (VAMI) retort was introduced in the Soviet Union in 1941-5. This is a vacuum-retort furnace using iron retort-heaters. The mean working life of the heaters is about 30 cycles. Taking into account the unfavourable working conditions and the repairs, this furnace is not recommended for industrial use. The Bagley furnace is a cylindrical vacuum chamber developed in the U.S.A. The main disadvantages are low  
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Vacuum furnaces for the production ... S/136/61/000/008/002/005  
E021/E180

productivity and high consumption coefficients. Bagley furnaces fitted with heaters inside the charge have the advantage of faster heat exchange between the low-conductivity charge and the heaters. The next furnace described is a three-chamber furnace with graphite heaters. The use of several chambers within one vacuum-case enables an increase in production. Efficiency of Mg extraction is 58.8%; 9.5 kg charge and 1.36 kg reducing agent are required for every kg of magnesium produced. The specific electric energy consumption is 46.7 kWh. Because of this it cannot be recommended for industrial use. A stationary furnace with internal heating was proposed by VAMI and experiments were carried out in 1938. The disadvantages are poor contact between the rod-heaters and the charge and incomplete utilization of the charge in the upper and lower parts. Investigations into the use of the furnace were not completed. A rotary vacuum furnace with central graphite heaters is next considered. It can produce 250 kg of magnesium in 24 hours from a 1800-1900 kg charge. Typical consumption for 1 kg of magnesium is 7.2-7.6 kg charge, 1.06 kg reducing agent and 13-15 kWh electricity. Attempts have been made in Hungary to develop this into a continuous process.

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Lastly, two processes patented in France and Germany are briefly considered.

There are 7 figures and 5 references: 2 German and 3 English.  
The English language references read as follows:

Ref.1: L. Pidgeon, W. Alexander. Amer. Inst. Min. Met. Eng.,  
1944, 159, 315.

Ref.2: A. Majer. Amer. Inst. Min. Met. Eng., 1944, 159, 363.

Ref.3: G. Bagley. Chem. Eng. News, 1944, 22, 921.

Card 3/3

| PROCESS AND PROPERTIES INDEX   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <p><i>CA</i></p> <p>Chemistry of developers and development. I. Physico-chemical foundations of a rational formula for developer solutions. K. CHERNY AND V. CHIRLOV. <i>Kino-technika</i> 11, 227-31(1939).—C. and C. refer to the investigations of Lumière and Seyewitz, Anderson, Sheppard and Mees, and give a brief résumé of Niets' work.</p> <p>Special attention is then given to the max. amt. of alkali and sulfite a developer should contain for practical use. In general, too much sulfite is used in developers. It is sufficient to use 4.0 g. of sulfite for 1 g. pyrazinichol or 1 g. hydroquinone in a developer; 4.1 g. sulfite for 1 g. paramidophenol; 3.0 g. for 1 g. elon and 2.6 g. sulfite for 1 g. amidol. The max. development velocity is reached with 4% <math>\text{Na}_2\text{CO}_3</math> and 5% <math>\text{K}_2\text{CO}_3</math>. Instead of the carbonate the hydroxide can also be used in smaller amount. Two formulas are given for an elon-hydroquinone developer which C. and C. regard as correct.</p> <p>II. Elon-hydroquinone developer and metoquinone. <i>Ibid</i> 315-31.—The replacement of <math>\text{Na}_2\text{CO}_3</math> in a hydroquinone developer by <math>\text{NaOH}</math> gives a considerable increase of development speed; with an elon developer, however, a decrease of development speed results. The mixt. of elon and hydroquinone developers shows higher contrast going over a max., and less fog going through a min., than either elon or hydroquinone alone. The different mixts. show some influence on the H. and D. speed. Metoquinone can be replaced by a mixt. of elon and hydroquinone, if the <math>\text{H}_2\text{SO}_4</math> of the elon is neutralized by the theoretical amt. of alkali such as carbonate. In the developer metoquinone forms probably an equil. with elon and hydroquinone.</p> <p>A. P. H. TRIVILLE</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>ASD-51A METALLURGICAL LITERATURE CLASSIFICATION</p> <p>RECORD 1710317A</p> <p>RECORD 1710317A</p> <p>RECORD 1710317A</p>  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| PROCESSING AND PROPERTIES INDEX   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | PROCESSING AND PROPERTIES INDEX                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p><i>Chemistry of developers and development. III. Influence of the dilution of the developers on photographic properties. K. CHIRIKOV AND V. CHIRIKOV. Kineticheskii</i></p> <p><i>11, 373-6(1939) of. C. A. 34, 20-30.—The authors found that, maintaining the same proportions between time of development and dil., developers of different concns. do not, in general, give the same results. In a few special cases the deviation is very small. The causes of these deviations are: (1) the process of hydrolysis, which increases with dil.; (2) insufficient diffusion of the reaction products toward the surface, which can, however, be improved by energetic stirring of the soln.; (3) exhaustion of the soln. as a result of oxidation; (4) the tanning, in concd. soln., of the upper layer of the gelatin by the reaction products. The solns. of different concns. have different temp. coeffs. Diluted solns. are more sensitive to change of temp. A. P. H. T.</i></p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <p>5</p>   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>450.514 METALLURGICAL LITERATURE CLASSIFICATION</p>  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <p>450.514 METALLURGICAL LITERATURE CLASSIFICATION</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| 1ST AND 2ND ORDERS   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p><b>Effect of the preparation and chemical sensitizing on the spectral sensitivity of photographic emulsions.</b> K. Chibrikov and V. Chelizov. <i>Studies Emulsion Colloid Lab., Kinophoto Inst. (Moscow)</i> 1, 128-43 (1962); cf. preceding abstr. The sensitivity of emulsions made by various methods was measured with low-temp. and high-temp. light sources. C. E. K. Mees</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <p>1970-1971</p>   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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*Study of the development process. K. Chibisov and A. Chaltzov. Studies Emulsion Colloid Lab., Kinophoto Inst. (Moscow) I, 144 81:1962; cf. C. I. 27, 237.*

The values for  $\gamma$  are obtained for a no. of developing agents substituted in a simple formula, for various times and temps. of development. By plotting the time necessary to get a given  $\gamma$  against the temp., "iso- $\gamma$ -lines" are obtained. C. E. K. Mees

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

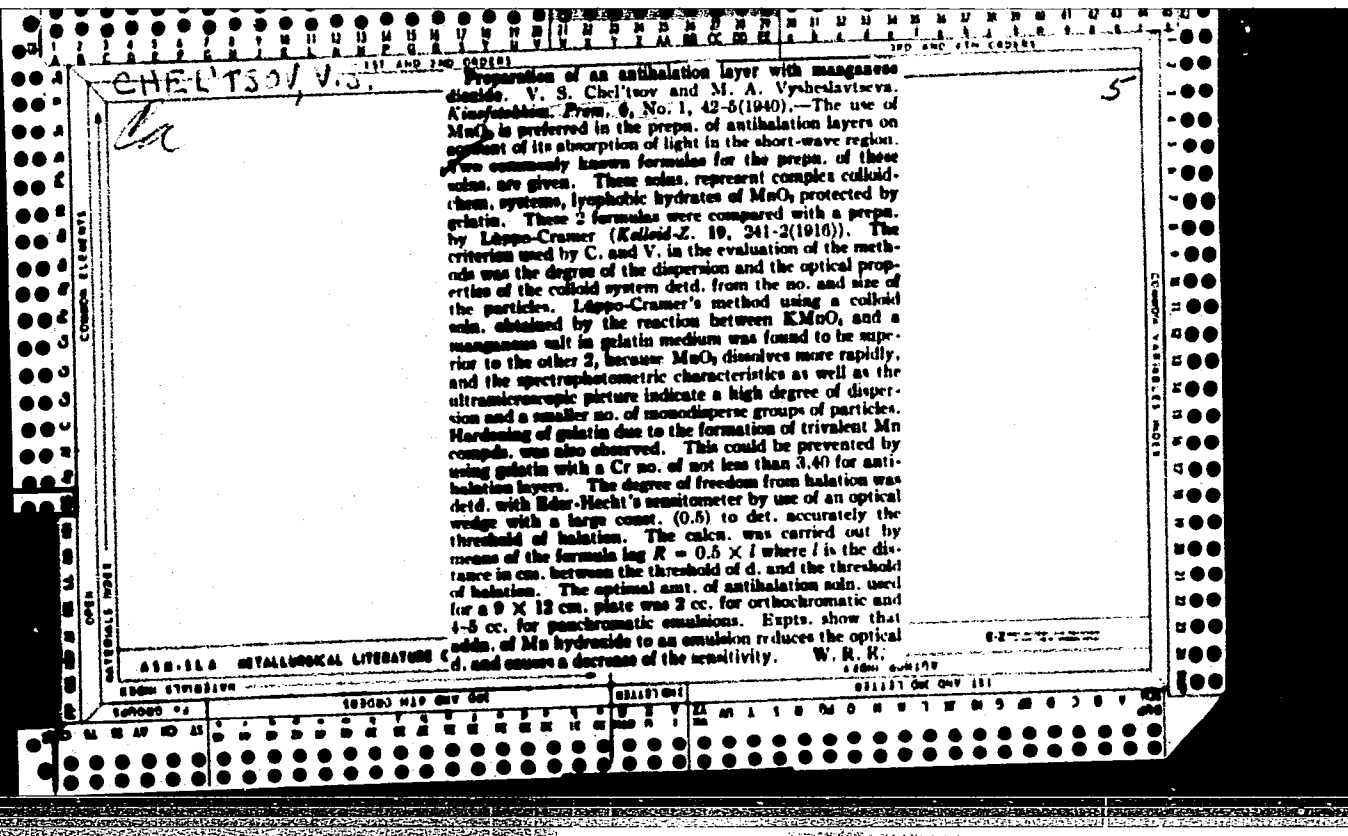
**Replacement reactions in the inner sphere of complex compounds by groups having double coordination capacity.** K. Chibrikov, V. Cheltzov and A. Mikhailova. *Trans. Inst. Pure Chem. Reagents* (U. S. S. R.) 1933, No. 13, 121-32. The investigation is concerned with the formation of carbonato, oxalato, malonato and succinato derivatives of tetrammine and diethylenediamine series of Co. The study of the entrance of the neg. groups having double coordination capacity into the inner sphere was carried out by spectrophotometric measurements of solns. of diaquo compds. contg. ordinary salts of corresponding dibasic acids, or in solns. of carbonate salts in the presence of corresponding free acids. Only the carbonato group could be quickly replaced, almost quantitatively. With other dibasic acids, an equl. is established in which the diaquo salts are of major importance. During the replacement of the carbonato group from the inner sphere by action of free dibasic acids, formation of diaquo salt as an intermediate compd. was always observed. The entrance of neg. groups having double coordination capacity into the inner sphere can be accomplished by initial replacement in the outer sphere with subsequent rearrangement, or by direct interaction with the central atom and replacement in the inner sphere. By heating to boiling, the malonato and oxalato groups could be replaced quantitatively by the carbonato group; this confirms the existing stereochem. conception. W. P. Fricks

W. P. Fricks

| 1ST AND 2ND ORDER  |  |  |  |  |  |  |  |  |  | 3RD AND 4TH ORDER |  |  |  |  |  |  |  |  |  |
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| PROCESSES AND PROPERTIES INDEX   |  |  |  |  |  |  |  |  |  |                   |  |  |  |  |  |  |  |  |  |
| <p>Optical sensitizers for use in emulsions. K. V. Chir-<br/>ov and V. S. Chelapov, <i>Kino-Photo Inst. Moscow 2</i>,<br/>1-00(1984).—A study illustrated with curves showing<br/>the effect produced by the addn. of a large no. of sensitizers<br/>to emulsions. C. R. K. Meek</p> |  |  |  |  |  |  |  |  |  |                   |  |  |  |  |  |  |  |  |  |
| <p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>   |  |  |  |  |  |  |  |  |  |                   |  |  |  |  |  |  |  |  |  |
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| CHELTSOV, V. S.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| PROCESSING AND PROPERTIES INDEX   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>The practical amount of soluble bromide in ripening an emulsion. V. S. Cheltsov and V. L. Zelikman. <i>Kino-fotokhimiya</i>. Prom. 1939, No. 6, 30-42.—Several formulas have been worked out for the prepn. of photographic emulsions based on the soly. of AgBr in solus. contg. excess sol. bromide. The technique is such that very little sol. bromide is present just before the emulsion is washed; thus the cost is reduced. C. and Z. claim that their method for creating certain conditions of soly. in ripening is original. A high dispersion of grains and a high-speed neg. photographic material can be obtained. The formulas are included as tables.</p> <p>W. R. Eichler and R. H. Lambert</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>RECORDING AND INDEXING</p>   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



CHERTSOV, V. S.

PA

*Colour Photography*

637

778.6:771.7

**Colour Photography on Multiple-layer Films with Colour Development.** V. S. Chertsov, G. I. Anisuzov and A. N. Iordanskii. *Uspekhi Khim.*, 14, 349-44, 1945.—The principles of three-component subtractive formation of coloured images are explained and the main features of the Agfacolor and Kodachrome development processes outlined. A key to the commoner Kodak and Agfa colour films is given, arranged according to processing and sensitivity characteristics, together with 97 references.

*Chem. Abs.*

V. S. CHEL'TSOV, A. N. Iordanskiy

"Color Motion Pictures", by A.N. Iordanskiy and V. S. CHEL'TSOV, Goskinoizdat, Moscow, 1950. The following topics are discussed: Light and Color, Primary and Secondary Colors, Formation of Color by Reflected Light, Theory of Trichromatic Perception of Color, Subtractive Method of the Preparation of Color Motion Picture Images, Color Development, Structure of Three Layer Motion Picture Films, Preparation of Color Motion Picture Negative, Preparation of Color Motion Picture Positive, Demonstration of Color Motion Picture Films. The chapter headings of the book were translated. The book is very amateurish, and we do not think it would be of sufficient interest to translate the complete text.

SO: B-64328, 7 May 1953